

WHAT IS CLAIMED IS:

1. A method of minimizing the influence of register differences in multicolor printing, in particular in digital printing processes, register values (1) in the transport direction (2) which are different transversely with respect to this direction being set to a value between the extremes (3, 3'), wherein a number of individual values of the register (1) are measured and an average value (4, 4') is determined from these and brought into alignment with the average value (4, 4') from at least one further color printing unit (5, 5', 5'', 5''').
2. The method as claimed in claim 1, wherein the register values (1) are measured at a number of locations transversely with respect to the transport direction.
3. The method as claimed in claim 2, wherein the variation of a line of image points is measured and the data (7) is stored, wherein the register values (1) are measured transversely with respect to the transport direction (2) at at least one location (6, 6'), and wherein the variation of the line of image points is determined from the data (7, 7', 7'', 7''') and the at least one measurement and the average value (4, 4') is calculated.
4. The method as claimed in claim 3, wherein, in order to calculate an average value (4'), the deviations (8, 8', 8'', 8''', 8''', 8''''') determined are weighted.
5. The method as claimed in claim 4, wherein quadratic weighting is carried out.
6. The method as claimed in claim 3, wherein the median between the lowest (3) and the highest value (3') is taken as the average value (4, 4')

7. The method as claimed in claim 5, wherein, in determining the average value (4, 4'), the lowest (3) and highest values (3') are not included.

8. The method as claimed in claim 7, wherein the average values (4, 4') of all the color printing units (5, 5'', 5''') are brought into alignment with the average value (4, 4') of a reference printing unit (5).

9. The method as claimed in claim 8, wherein the register values (1) are determined by the measurement of lines of image points.

10. The method as claimed in claim 9, wherein the register values (1) are determined by measuring at least two register marks (9, 9') arranged spaced apart transversely with respect to the transport direction.

11. The method as claimed in claim 10, wherein the register marks (9, 9') are printed on a carrier (10) for printing substrates (11) and subsequently removed again

12. The method as claimed in claim 10, wherein the register marks (9, 9') are printed onto a substrate (11') lying on the carrier (10) for printing

13. Apparatus for implementing the method as claimed in claim 12, having at least one sensor (6, 6') for measuring register, wherein at least one sensor (6, 6') is designed in such a way that it measures the register at at least two measurement locations (6, 6') spaced apart transversely with respect to the transport direction (2), and wherein a computer (12) is provided which is designed in such a way that it calculates average register values (4, 4') and brings the average register values (4 or 4') of at least two color printing units (5, 5', 5'', 5''') into alignment with one another.

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14. The apparatus as claimed in claim 13, wherein the computer (12) is designed in such a way that it brings the average values (4 or 4') of all the color printing units (5', 5'', 5''') into alignment with the average value (4 or 4') from a reference printing unit (5).

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15. The apparatus as claimed in claim 14, wherein the at least one sensor (6, 6') is designed to measure a large number of measurement locations (6, 6') transversely with respect to the transport direction (2).

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16. The apparatus as claimed in claim 14, wherein a large number of sensors (6, 6') are arranged transversely with respect to the transport direction.

17. The apparatus as claimed in claim 16, wherein, for each color printing unit (5, 5' 5'', 5'''), at least two sensors (6, 6') are arranged transversely with respect to the transport direction (2), and wherein the computer (12) is loaded with data (7, 7', 7'', 7''') relating to the variation of a line of image points of at least one writing head (13, 13', 13'', 13'''), and determines the average values (4 or 4') from the measurements of the sensors (6, 6') and the data (7, 7', 7'', 7''').

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18. The apparatus as claimed in claim 17, wherein the data (7, 7', 7'', 7''') are stored as machine-specific nominal values of at least one writing head(13, 13', 13'', 13''').

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19. The apparatus as claimed in claim 17, wherein sensors (6, 6') are arranged to determine the data (7, 7', 7'', 7''').

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20. The apparatus as claimed in claim 19, wherein, in order to measure the register values (1), at least one sensor (6, 6') is provided to detect at least two register marks (9, 9') arranged spaced apart transversely with respect to the transport direction.